

What is Claimed Is:

1. A router configured for sending and receiving data packets on an InfiniBand™ network, the router being configured to receive a network layer data packet having a transport header having an application identifier indicative of application layer priority data of the network layer packet, the router comprising:

a mapping table having multiple entries, each entry specifying an application identifier and a corresponding service level, and

a controller configured for parsing the transport header and determining the service level for the application identifier, the controller outputting the network layer packet on the InfiniBand™ network within an InfiniBand™ packet according to the determined service level.

2. The router of claim 1, further including a host channel adapter configured for generating the InfiniBand™ packet based on a request from the controller.

3. The router of claim 2, wherein the host channel adapter includes a service level to virtual lane mapping table configured for assigning the InfiniBand™ packet to a prescribed virtual lane based on the determined service level specified in the request.

4. The router of claim 1, wherein the networks layer packet is an Internet Protocol packet.

5. A method of outputting a network layer packet, received by a router, onto an InfiniBand™ network, the method comprising:

receiving, by the router, a network layer data packet having a transport header specifying an application identifier;

parsing the transport header and mapping the application identifier to a determined service level based on the parsed transport header; and

outputting the network layer packet on the InfiniBand™ network within an InfiniBand™ packet according to the determined service level.

6. The method of claim 5, further including, prior to outputting step, the step of mapping the service level to a virtual lane and establishing an InfiniBand™ packet header including a virtual lane field that contains priority data relating to the priority data of the network layer packet.

7. The method of claim 5, wherein, prior to the parsing step, the method includes populating within the router a application identifier to service level mapping table with application identifier values and corresponding service level numbers.

8. The method of claim 5, wherein the network layer packet is an Internet Protocol packet.

9. A router configured for sending and receiving data packets on an InfiniBand™ network, the router being configured to receive a network layer data packet having a transport header specifying an application identifier indicative of application layer priority data of the network layer packet, the router comprising:

means for a mapping an application identifier to a corresponding service level, and

means for parsing the transport header and determining the service level for the application identifier, and for outputting the network layer packet on the InfiniBand™ network within an InfiniBand™ packet according to the determined service level.

10. The router of claim 9, wherein the means for mapping is a mapping table having multiple entries, each entry specifying an application identifier value and a corresponding service level.

11. The router of claim 9, wherein the means for parsing is a controller.

12. The router of claim 11, further including a host channel adapter configured for generating the InfiniBand™ packet based on a request from the controller.

13. The router of claim 12, wherein the host channel adapter includes a service level to virtual lane mapping table configured for assigning the InfiniBand™ packet to a prescribed virtual lane based on the determined service level specified in the request.

14. The router of claim 9, wherein the network layer packet is an Internet Protocol packet.